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# PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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# PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

| Date of mailing *(day/month/year)* | 28.10.2004 |
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| Applicant's or agent's file reference | IMPORTANT NOTIFICATION |
|---|---|
| PA020012 | |

| International application No. | International filing date *(day/month/year)* | Priority date *(day/month/year)* |
|---|---|---|
| PCT/EP 03/50294 | 08.07.2003 | 17.07.2002 |

Applicant
THOMSON LICENSING S.A. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

| Name and mailing address of the international preliminary examining authority: | Authorized Officer |
|---|---|
| European Patent Office<br>D-80298 Munich<br>Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br>Fax: +49 89 2399 - 4465 | Schalinatus, D<br>Tel. +49 89 2399-8242 |

Form PCT/IPEA/416 (January 2004)

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

REC'D 29 OCT 2004
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| Applicant's or agent's file reference | FOR FURTHER ACTION | See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |
|---|---|---|
| PA020012 | | |
| International application No. | International filing date *(day/month/year)* | Priority date *(day/month/year)* |
| PCT/EP 03/50294 | 08.07.2003 | 17.07.2002 |
| International Patent Classification (IPC) or both national classification and IPC | | |
| H04N5/44 | | |
| Applicant | | |
| THOMSON LICENSING S.A. et al. | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 10 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☒ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

| Date of submission of the demand | Date of completion of this report |
|---|---|
| 14.01.2004 | 28.10.2004 |
| Name and mailing address of the international preliminary examining authority:<br>European Patent Office<br>D-80298 Munich<br>Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br>Fax: +49 89 2399 - 4465 | Authorized Officer<br>Loeser, E<br>Telephone No. +49 89 2399-8482 |

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP 03/50294

## I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

**Description, Pages**

1-7 as originally filed

**Claims, Numbers**

1-9 filed with telefax on 14.07.2004

**Drawings, Sheets**

1-3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:

   ☒ the claims, Nos.: 10

   ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   *(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees, the applicant has:

   ☐ restricted the claims.

   ☐ paid additional fees.

   ☐ paid additional fees under protest.

   ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

   ☐ complied with.

   ☒ not complied with for the following reasons:

   **see separate sheet**

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

   ☒ all parts.

   ☐ the parts relating to claims Nos. .

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

| | | | |
|---|---|---|---|
| Novelty (N) | Yes: | Claims | 1-9 |
| | No: | Claims | |
| Inventive step (IS) | Yes: | Claims | 1-8 |
| | No: | Claims | 9 |
| Industrial applicability (IA) | Yes: | Claims | 1-9 |
| | No: | Claims | |

2. Citations and explanations

see separate sheet

## 1. General

The following documents representing prior art are cited:
D1: US-A-5 844 615;
D2: US-A-5 493 339;
D3: EP-A-1 091 593;
D4: US-A-5 844 615;
D5: WO-A-01/84837;
D6: EP-A-1 069 782;
D7: US-A-5 745 184;
D8: EP-A-1 128 673.
D8 is cited in the description on file. The relevant contents thereof are summarized in the description on file.

The application, more particularly claim 9, has deficiencies in respect of Articles 6, 33(3) and Rule 13(1) PCT.

## 2. Art. 6 PCT/lack of conciseness:

The various definitions of the invention given in independent apparatus claims 1 and 9 are such that the claims as a whole are not concise, contrary to **Art. 6** and Rule 6.1(a) PCT. The claims should be recast to include the minimum necessary number of independent claims in any one category, with dependent claims as appropriate. In the present case it is considered appropriate to use only one independent claim in any category.

## 3. Claims 1 and 2-8

Claim 1 has the following effective features:
(a) A video apparatus comprising
(b) a digital encoder
(b1) receiving a first analogue signal with ancillary information in a given time window
(b2) and generating on an output a digital stream
(b3) the digital stream being based at least partly on the first analogue signal;
(c) a digital decoder

(c1) at least connectable to said output
(c2) and generating a second analogue signal from the digital stream at least when being connected to said output;
(d) control means
(d1) for generating a control signal;
(d2) the control signal corresponding the occurrence of said time window
(e) selecting means
(e1) for selectively outputting the first analogue signal or the second analogue signal,
(e2) the selective outputting being based on said control signal
(e3) the first analogue signal being selected and outputted when said time window occurs, otherwise the second analogue signal being selected and outputted;
(f) the digital decoder including means for synchronising the second analogue signal to the first analogue signal.

D8 (Figures, e.g. Figs. 5, 7, and related text) discloses arrangements in which a video encoder receives a first analogue video signal (e.g. a CVBS signal which is known to include ancillary information) and uses an digital encoder for generating from the related video information a digital video stream. The digital video stream is digitally processed and subsequently decoded into a second analogue signal. One of the first and second analogue video signals is selectively outputted via a controllable switch to an analogue video recorder. Thus D8 anticipates features (a), (b), (b1)-(b3), (c), (c1), (c2), (d), (d1), (e), (e1) and (e2) are anticipated by D8. Features (d2), (e3) and (f) are not anticipated by D8.

The latter claims features can be associated with the objectives set out in the description, ie
- overcoming the problem occurring with D8, ie the stripping of ancillary information (VBI signals) when digitally processing the first analogue signal, by re-inserting the ancillary information into the second analogue signal which is therefor synchronised with the first analogue signal. At the same time, cross-talk is minimised by the synchronising.

The claimed solution thus amounts to detecting a time window in which the ancillary information is present, and directly feeding the respective first analogue input information to the second analogue output information in synchronism, thus bypassing the digital processing.

**D1** (Fig.1) discloses encoding an analogue video signal having ancillary information into a digital data stream in which the ancillary information is not lost. This implies the detection of time windows in which the ancillary information occurs, the separation thereof and specific processing for mixing the ancillary information into the digital data stream. At a decoder (Fig.2) the original analogue video signal is reconstructed from the digital stream.

**D2** (Fig.11) discloses a technique similar to that of D1.

Both D1 and D2 recognize the same problem (non-encoding of the ancillary information) as is identified in the application on file. However, their respective solutions to the problem are substantially different from that of claim 1 on file wherein ancillary information bypasses the digital processing which involves both encoding and decoding.

**D3**, **D5**, **D6** and **D7** represent further examples of generating a digital video stream having ancillary data (VBI data) included.

**D4** (Figs. 1, 3 and related text passages) discloses an apparatus for receiving a first analogue television signal (NTSC) having ancillary information. The ancillary information is detected, extracted, and converted into a character or an image. The converted information is synthesized with the first analogue television signal for display. The effective features of claim 1 on file, relating to bypassing a digital processing for the ancillary information do not appear to be disclosed in D4.

Following from the above, the problem (loss of ancillary information due to digital signal processing) associable with the

combination of features (d2), (e3) and (f) cannot be identified in the prior art, and the features of claim 1 as a whole cannot be obviously derived from the presently available prior art and/or a skilled persons normal design options. Therefore, claim 1 is considered to meet the requirements of Article 33 PCT. The same findings hold for dependent claims 2-8.

**4. Claim 9**

The effective features of claim 9 are compared hereinafter with the features of claim 1 (omissions in comparison to claim 1 indicated by strike-out):

(a) A video apparatus comprising
(b) a digital encoder
(b1) receiving a first analogue signal ~~with ancillary information in a given time window~~
(b2) and generating on an output a digital stream
(b3) the digital stream being based ~~at least partly~~ on the first analogue signal;
(c) a digital decoder
(c1) at least connectable to said output
(c2) and generating a second analogue signal from the digital stream at least when being connected to said output;
~~(d) control means~~
~~(d1) for generating a control signal;~~
~~(d2) the control signal corresponding the occurrence of said time window~~
~~(e) selecting means~~
~~(e1) for selectively outputting the first analogue signal or the second analogue signal;~~
~~(e2) the selective outputting being based on said control signal~~
~~(e3) the first analogue signal being selected and outputted when said time window occurs, otherwise the second analogue signal being selected and outputted;~~
(f) the digital decoder including means for synchronising the second analogue signal to the first analogue signal.

Feature (f) is the only feature of claim 9 that is not anticipated by D8 (see section 3 above). Feature (f) does not solve the main problem (loss of ancillary information by digital processing) to be solved that is identified in the description (p.1 lines 16-21). However, feature (f) attempts to solve a secondary problem (reducing cross-talk) that is also solved, as a side effect, by the features of claim 1.

Since claim 9 fails to solve the main problem, it lacks support by the description and/or lacks essential features relating to solving the main problem (Art. 6 PCT contravened).

A problem of cross-talk is generally known in the art. A skilled person would always consider reducing cross-talk and would provide technical measures accordingly. Video sync pulses are known in the art as signals of high amplitude and steep transients, thus have a strong high frequency content, the transients and high frequency content being much stronger than those of an expected television image signal in the image signal phase of the television signal. High frequency content due to transients is known as a typical source of cross-talk. Thus on the one hand a skilled person designing an apparatus for processing television/video signals would consider avoiding any strong transients, such as from a sync signal of a second television signal, to occur during the image signal phase. On the other hand, when one cannot avoid two television signals to be present in a same apparatus, the sync signals may not be suppressed. The only solution remaining for reducing cross-talk from the sync signals is then a relative time shifting, of the two signals such that the sync signals are offset from the image periods. Such a time-shifting corresponds to synchronism between the two signals.

For these reasons it is considered that a skilled person aware of cross-talk problematic would considered synchronising the two signals, so that feature (f) cannot establish an inventive step (Art. 33(3) PCT contravened). Consequently, since the common technical concept associable with feature (f) and shared by claims 1 and 9 is not inventive, the requirement of unity (Rule 13.1 PCT) is contravened.

## 5. Description and formal matters

The claims are not cast in the two-part form as required by Rule 6.3(b) PCT.
The description is not matched with the amended claims.

# CLAIMS

1. Video apparatus comprising :

- a digital encoder (4, 6) receiving a first analogue signal (A1) with ancillary information in a given time window and generating on an output a digital stream (MPEG) based at least partly on the first analogue signal (A1) ;
- a digital decoder (8) at least connectable to the output and generating a second analogue signal (A2) from the digital stream at least when being connected to said output;
- control means (8, 14 ; 26) for determining the occurrence of said time window and correspondingly generating a control signal (CTL) ;
- selecting means (20) for selectively outputting, based on said control signal (CTL), the first analogue signal (A1), when said time window occurs, and otherwise, the second analogue signal (A2),

wherein the digital decoder (8) includes means for synchronising the second analogue signal (A2) to the first analogue signal (A1).

2. Video apparatus according to claim 1, wherein the means for synchronising the second analogue signal (A2) to the first analogue signal (A1) are coupled to a synchronisation separator (12) receiving the first analogue signal (A1) on an input.

3. Video apparatus according to any of claims 1 to 2, wherein the control means uses a first signal (VBI) which is high only during periodical predetermined time intervals corresponding to said time window.

4. Video apparatus according to claim 3, wherein the first analogue signal (A1) is a CVBS signal and wherein said first signal (VBI) is high during predetermined lines of the first analogue signal (A1).

5. Video apparatus according to claim 3, wherein the control signal (CTL) is generated by a combination of the first signal (VBI) and of a second periodical signal (FBL) corresponding to active parts of the first analogue signal (A1).

6. Video apparatus according to claim 5, wherein the first analogue signal (A1) is a CVBS signal, wherein said first signal (VBI) is high during predetermined lines of the first analogue signal and wherein said second periodical signal (FBL) is high during a determined part of each line.

7. Video apparatus according to any of claims 1 to 6, wherein the digital encoder (4, 6) and the digital decoder (8) are coupled via a selector (7) coupled to a medium interface (10).

8. Video apparatus according to any of claims 1 to 7, wherein the selecting means (20) are coupled to an output (22) of the video apparatus connectable to a display.

9. Video apparatus comprising :

- a digital encoder (4, 6) receiving a first analogue signal (A1) and generating on an output a digital stream (MPEG) based on the first analogue signal (A1) ;

- a digital decoder (8) receiving the digital stream (MPEG) and generating a second analogue video signal (A2) based on the digital stream (MPEG) and synchronised with the first analogue signal (A1),

wherein the digital decoder (8) includes means for synchronising the second analogue signal (A2) to the first analogue signal (A1).